OIL ANALYSIS REPORT

360 TECHNICAL EXPERTISE | OIL DIAGNOSTICS

Sample Rating Trend

Oct2023   Dec2023   Feb2024   Apr2024   Jul2024

NORMAL ✓

Machine Id
5082
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		**PCA0131503**	PCA0123915	PCA0118826
Sample Date	Client Info		**13 Jul 2024**	17 Apr 2024	13 Feb 2024
Machine Age	mls	Client Info	**119109**	107027	0
Oil Age	mls	Client Info	**0**	0	0
Oil Changed		Client Info	**Changed**	Changed	N/A
Sample Status			**NORMAL**	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	**<1.0**	<1.0	<1.0
Water	WC Method	>0.2	**NEG**	NEG	NEG
Glycol	WC Method		**NEG**	NEG	NEG

WEAR METALS

		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**34**	24	22
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>20	**3**	3	3
Lead	ppm	ASTM D5185m	>40	**6**	3	<1
Copper	ppm	ASTM D5185m	>330	**1**	2	1
Tin	ppm	ASTM D5185m	>15	**0**	2	1
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES

		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**3**	2	2
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	50	**64**	68	63
Manganese	ppm	ASTM D5185m	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	950	**1023**	934	956
Calcium	ppm	ASTM D5185m	1050	**1169**	1072	1099
Phosphorus	ppm	ASTM D5185m	995	**1058**	989	1043
Zinc	ppm	ASTM D5185m	1180	**1273**	1252	1207
Sulfur	ppm	ASTM D5185m	2600	**3354**	3095	2891

CONTAMINANTS

		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	5	0
Sodium	ppm	ASTM D5185m		**5**	0	2
Potassium	ppm	ASTM D5185m	>20	**0**	2	0

INFRA-RED

		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.8**	1.2	1
Nitration	Abs/cm	*ASTM D7624	>20	**13.9**	11.2	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.3**	22.1	21.3

FLUID DEGRADATION

		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.0**	19.2	18.2
Base Number (BN)	mg KOH/g	ASTM D2896		**8.4**	8.6	8.5

OIL DIAGNOSTICS
360 TECHNICAL EXPERTISE

FT-IR (Direct Trend)

Oxidation / Nitration / Sulfation — Abs/cm, Oct18/23 – Jul13/24

Base Number

Base Number (mg KOH/g), Oct18/23 – Feb13/24

Viscosity @ 100°C

cSt (100°C), Oct18/23 – Apr17/24
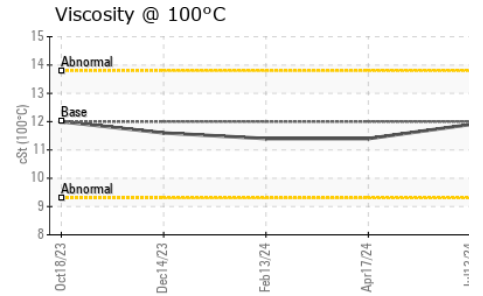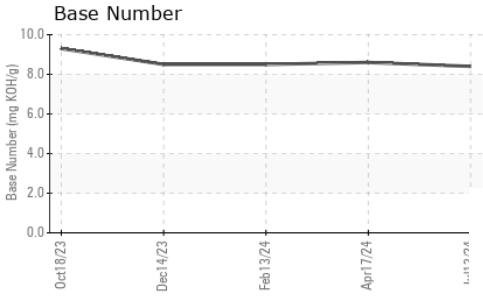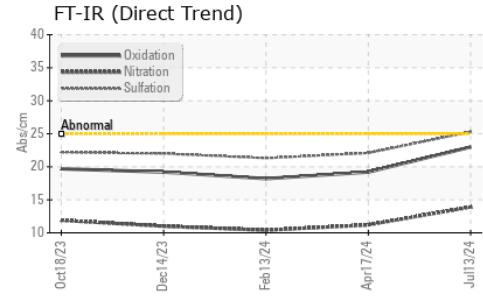
VISUAL	method		limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445 12.00	**11.9**	11.4	11.4
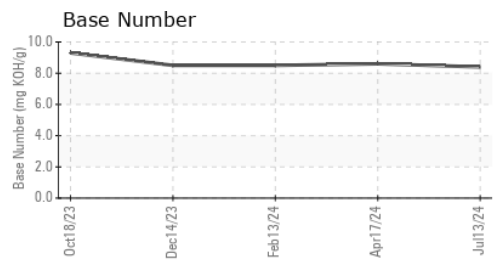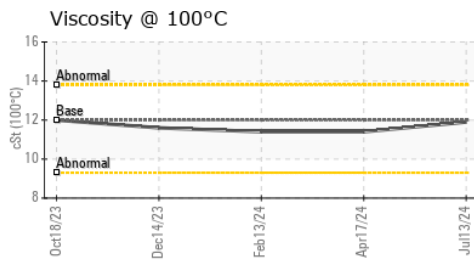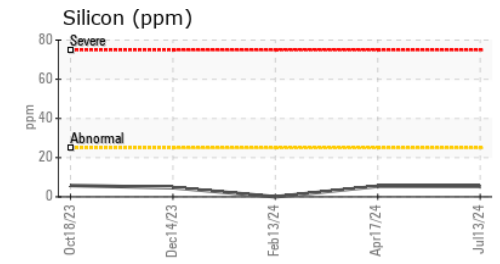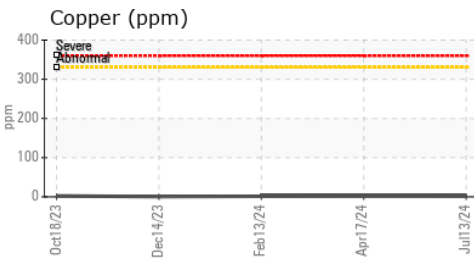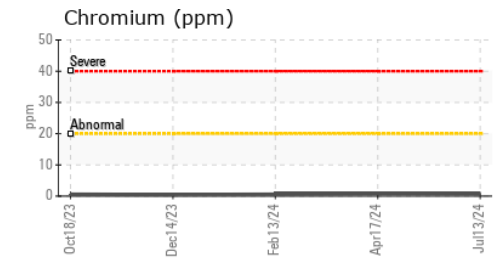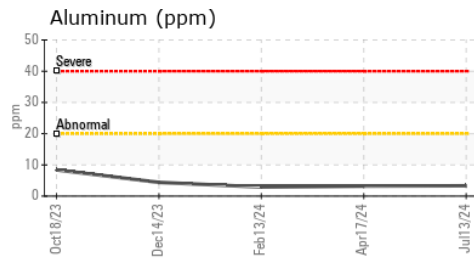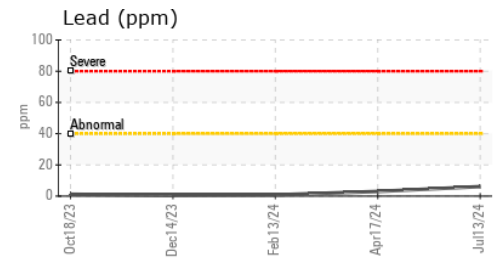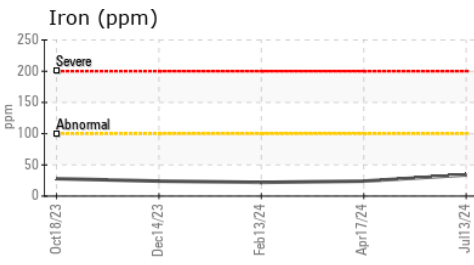
GRAPHS

Iron (ppm)

Lead (ppm)

Aluminum (ppm)

Chromium (ppm)

Copper (ppm)

Silicon (ppm)

Viscosity @ 100°C

Base Number

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

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